DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control
and Prevention (CDC)
Atlanta GA 30333

TB Notes
No. 2, 2011

Dear Colleague:

We were saddened to learn of the death of Dr. David J. Sencer, the longest-serving director of CDC (from 1966 to 1977), who died on May 2 at Emory University Hospital. Dr. Sencer was a giant of public health, making wide-ranging changes and improvements to public health since he became assistant director of CDC in 1960. Two of his major contributions were to the eradication of smallpox and the founding of the school of public health at Emory University. Dr. Sencer started his federal service with the Tuberculosis Division, and always remained interested in our progress towards the elimination of TB in the United States. Please see the item about his life and work in the Personnel Notes section.

Kathryn Koski, MS, MPH, was selected as the Associate Director for Management and Operations (ADMO) for DTBE. She was selected among a highly competitive group of 20 qualified applicants. She officially assumed this role on February 27; we are delighted to have her here.

A number of important conferences are held each year in the spring and summer. The 15th annual conference of the International Union Against Tuberculosis and Lung Disease (IUATLD), North American Region, convened February 24–26 in Vancouver, British Columbia, Canada. The theme for this year's conference was "Engaging Vulnerable Populations." The program featured world-renowned experts speaking in plenary sessions devoted to such topics as tuberculosis and indigenous populations, tuberculosis and diabetes, and novel diagnostic tools. Information about presentations given at the meeting can be found at
http://www.bc.lung.ca/association_and_services/union.html

The 60th annual Epidemic Intelligence Service (EIS) conference was held April 11–15, 2011, in Atlanta. EIS is a postgraduate on-the-job program of service and training in applied epidemiology. Every year DTBE is fortunate in having success at these conferences, not only in the outstanding presentations given by our current EIS officers, but also in our recruitment efforts for new EIS officers. Please read Maryam Haddad's article on this year's EIS conference and the news of our new and current officers.

The 2011 international conference of the American Thoracic Society (ATS) was held May 13–18 in Denver, Colorado. It is estimated that there were 200 (or more) TB-related presentations and posters at the ATS conference, making it one of the world's major TB conferences. The 29th semi-annual meeting of the TB Trials Consortium

(TBTC) also took place in Denver on May 13–14, 2011, in conjunction with the ATS conference.

The 7th National Conference on Laboratory Aspects of Tuberculosis was held at the Omni Hotel at CNN Center in Atlanta, Georgia, June 13–15, 2011. This TB lab meeting was sponsored by the Association of Public Health Laboratories and CDC and consisted of general sessions, breakout sessions, posters, and an exhibit hall. It was held immediately before the 2011 National TB Conference.

The 2011 National TB Conference was held June 15–17, 2011, in Atlanta. This meeting brings together state, local, territorial, and other TB control professionals with colleagues from CDC to discuss a wide array of medical, technical, and programmatic TB issues. All attendees interested in TB-related advocacy were invited to attend the Stop TB USA annual partnership meeting on June 15. We will have coverage of some of the conference events in the next issue of TB Notes.

Please note: the National Tuberculosis Nurse Coalition (NTNC) is seeking members to join its collective voice for nurses working in TB control activities, and to advocate for TB elimination throughout the nation. NTNC advises and supports the TB control officials of state, local, and territorial governments by providing a coordinated nursing perspective on issues vital to the success of TB prevention and control programs. The NTNC is part of the National TB Controllers Association (NTCA). NTNC membership is open to all nurses who work in TB control programs, case manage TB patients, or are retired TB control staff members. All nurses who join NTCA become members of NTNC; please visit the NTNC/NTCA website to join.

The 19th semi-annual meeting of the TB Epidemiologic Studies Consortium (TBESC) will be held July 20–21 in Chicago, Illinois. Also, on September 20–22, 2011, the TB Education and Training Network (TB ETN) and the TB Program Evaluation Network (TB PEN) will once again join forces for their annual conference. The meeting, which has the theme, “Waves of Change, Oceans of Opportunity,” is being held at the Westin Atlanta North at Perimeter Hotel, Atlanta, Georgia.

I enjoyed seeing all of you at the 2011 National TB Conference!

Kenneth G. Castro, MD
Assistant Surgeon General, USPHS, &
Commanding Flag Officer
CDC/ATSDR Commissioned Corps
Director, Division of Tuberculosis Elimination
National Center for HIV/AIDS, Viral Hepatitis,
STD, and TB Prevention

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TB Notes

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National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention

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HIGHLIGHTS FROM STATE AND LOCAL PROGRAMS

Using Components of the National Incident Management System (NIMS) Command Structure in TB Testing in Congregate Settings

The National Incident Management System (NIMS) Command Structure operates under specific concepts and principles. Using components of NIMS can be of value to programs that are looking for a method for preparing for TB testing events that may require coordination with multiple jurisdictions, different agencies, existing and volunteer personnel, and financial arrangements or resource requests from one or more levels of government or community agencies. For the purpose of TB mass testing in this congregate setting, adapting some components of the NIMS command structure has been shown to be helpful.

In January 2010, a TB outbreak developed in a shelter in rural northwest Illinois. The origin of the TB outbreak is believed to have been traced back to April 2007 to a homeless shelter client who was diagnosed and treated for TB. However, only limited testing and treatment was offered to other contacts at the shelter. In October 2009 and January 2010, two clients living in the same homeless shelter were identified as having TB. The genotype pattern matched the 2007 case. Thereafter, 17 TB genotype-matched cases were identified through August 2010.

The TB clinic in the county health department where the shelter is located normally provides treatment for 15-20 TB cases a year for the entire county. The TB clinic normally is open 2 days a week and the doctor is only present for one half-day session.

As this TB outbreak continued to grow, it was decided that all the clients and staff of the shelter should be given TB tests during May 2010. To make this happen it was apparent that additional resources would be needed. County and state officials concluded that it would require resources from different sections of the County Health Department, along with requests for government assistance at the local, state, and federal levels to thoroughly address the outbreak. In addition, conducting such a large TB testing event would require staff beyond the TB department, including volunteer workers from the community (i.e., hospitals, health agencies, etc.).

The National Incident Management System (NIMS) structure identifies specific roles and responsibilities in response to an event. The elements of the NIMS command structure used during this event included five components. At the top was the Unified Command, consisting of the county health department lead, the state health department representative, and the director of the shelter. Lateral to the Unified Command was a Safety Officer, a Public Information Officer, and a Liaison Officer (coordinating with local, state, and other government officials).The planning team held many meetings (some at the shelter) to ensure everyone was fully informed and each section was progressing in their preparation for the upcoming event. The Public Information Officer was an active member of the team and was kept abreast of the current status of the TB outbreak as the numbers grew. This was helpful in that he was able to modify his statements to the press with the most up-to-date information.

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The Operations Chief. For this event, the Operation Chief's role was to oversee three main groups, the Nonmedical Group, the Medical Group, and the Medical Testing Group.

The Planning Chief. The Planning Chief worked for a different section in the health department, but because of a TB staff shortage was allowed to serve in this role before and after the event. The Planning Chief identified and acquired needed supplies, personnel, and contractors/vendors (i.e., for x-rays).

The Logistics Chief was on loan to the TB department from a different health department section as well. His role was to work closely with the Planning Chief in acquiring supplies, and in moving and setting up personnel, equipment, communications, and on-site supply and meal stations. This event testing site required set-up of nine tents, with tables and chairs, for registration and testing (sputum, QuantiFERON [QFT], diabetes [A1C], and HIV). Indoor testing supplies consisted of four portable chest x-ray units, an incentive table (McDonald's coupons), and an exit table. At the end of the event, the Logistics Chief ensured transportation of QFT specimens to the lab and the return of personnel and all material back to the health department.

The Financial/Administration Chief. This activity was conducted through the existing accounting office. The Unified Command developed and managed the budget during this event.

A master checklist of supplies was developed weeks before the event. On the day before the event, a final confirmation of supplies and personnel was made and a 20-foot truck was rented and loaded. Local hospital emergency room directors, emergency medical service (EMS) staff, and police were notified of the event.

The set-up team arrived at the shelter site at 6:00 am. All tents, chairs, and supplies were in place by 6:30 am. The x-ray team members arrived at 6:30 am, and were ready by 7:00 am. The event started with a mass in-service training held in the cafeteria just after breakfast. It was stated that anyone who felt sick should see one of the nurses now before proceeding through the testing. Fortunately, everyone was fine that day. For testing, clients were first directed to a registration area. Here the client's name was checked off a master shelter list, asked for demographic information, and given the forms needed for all testing that day.

Sputum was collected at the next station. The client was instructed to walk to the nearby fence and bring back a sputum specimen. The blood-draw was the next station for QFT and A1C (diabetes). Once the client completed all the stations, he or she was then given incentives (fast food coupon, and a choice of a personal

item such as sunglasses or flip-flops) that were donated for the event. Over 300 clients were processed between 7 am and 5 pm.

NIMS structure oversight benefit during the event
To ensure that everything was running smoothly, or to address any problems as they occurred, the Chiefs met every 2 hours, or more often as needed, in the Unified Command tent throughout the day. For example, the lead person for the Medical Group noticed that the temperature was getting hot where some of the phlebotomists were sitting and made a request to the Operations Chief for assistance. The Operations Chief went to the Unified Command, and a meeting was quickly set up with the other Chiefs to discuss this matter. The shelter director provided two large fans for use in the phlebotomy area. The Safety Officer ensured the orange extension cords were put down and covered with duct tape so no one would trip. In addition, more frequent breaks for staff were discussed and scheduled. A cooling station/rest area was also designated in the First Aid tent.

At the end of the day, the logistics team, along with other health department staff, broke down all the stations, helped to load the truck, and left the site by 5:30 pm.

The following week an after-action review, or "Hot Wash," was conducted. During the Hot Wash, all the participants of the event who could attend the meeting were asked for their suggestions for improvement if another event took place in the future. Many good suggestions were offered and were recorded by the Logistics Chief on a board.

Lessons Learned
There seemed to be good value in using the NIMS structure for this event. First, the existing infrastructure was not equipped with the necessary personnel, supplies, and financial resources to address this type of large-scale TB screening. The NIMS structure enabled the chiefs and their teams to plan and identify what resources were needed, and then meet with local government, community, state, and federal contacts for requests for assistance.

Second, the NIMS structure provided a template that equipped everyone with knowledge of their role during the event. The NIMS structure also clarified who participants could seek assistance from in case they needed help. The personnel flow charts were developed for the first shift (morning) and second shift. I would strongly recommend developing and using a personnel flowchart for any program planning a similar event. It was extremely helpful.

Third, the long days of planning and management for events of this caliber can be very taxing on personnel. The NIMS structure provided a constant that permitted participants the ability to focus and execute despite the surrounding confusion and chaos.

On my return to Houston, I brought back this NIMS model and discussed it with the TB staff for use during some of our large shelter testing events. In September 2010, the Houston TB Program conducted a 4-day QFT testing event at a shelter using the NIMS structure. During this event, some personnel in the TB department performed duties and reported to individuals other than their normal supervisors. The TB Program developed and used a much-appreciated NIMS-style personnel flowchart. In addition, a template description of the transportation of personnel and QFT supplies/specimens to and from the lab was executed according to plan.

The director and the shift manager of the shelter were included in the unified command. Frequent communication between the commanders helped clarify if clients were still living in the shelter or the likelihood that they would return, as well as changes in set-up and storage of supplies and planning for the next day of testing.

Importantly, we asked for two director-approved shelter helpers to assist in finding clients throughout the shelter and guide them to the testing area. Some of the clients were found in their bunks or were just coming in the door from work. This made locating the clients much easier. Finally, the Houston TB program developed a future event-ready inventory system to store supplies in specific color-coded carrying cases. The testing went well, and the TB program plans to continue using the NIMS structure for applicable future events.

Using components of NIMS can be of value to programs looking for a method of preparing for TB events that may require coordination with multiple jurisdictions, different agencies, existing and volunteer personnel, and financial arrangements or resource assistance with one or more levels of government or community agencies.

Kudos to Mike Arbisi, TB Program Manager, Illinois Department of Public Health; Paul Kuehnert, Executive Director; and Claire Dobbins, Director, Health Protection Division, Kane County Health Department, as the principal architects of the design and adaptation of the NIMS command structure for the Illinois shelter mass testing event.

In addition, special thanks and acknowledgement to the staff at the Kane County Health Department and Illinois Department of Public Health for their extraordinary effort in the successful planning and response for this large shelter TB outbreak.

—Submitted by Ted Misselbeck
DTBE Public Health Advisor, Houston, Texas

New Mexico TB Control Program Collaborates with Navajo Nation and IHS in TB Education Campaign

The New Mexico (NM) Department of Health TB Program identified a high rate of TB-related mortality (13%-23%) during 2007–2009. Dr. Burgos, the TB Medical Director, and the TB program staff conducted a retrospective study to identify the causes of death and missed opportunities in diagnosis and treatment of TB. It was determined that 68% of the deaths were due to TB-associated disease. The two prominent factors in the study were clinician delay in diagnosis and patient delay in seeking treatment for TB-related symptoms. The primary groups of people affected by TB mortality were the Navajo population and Hispanics born in Mexico.

As a result of these alarming statistics, the NM TB program has collaborated with the Navajo Nation (NN) and Indian Health Services (IHS) on many projects to educate the general population within the NN of the signs and symptoms of TB disease and where they can receive treatment. A major educational campaign was undertaken within the NN to address these issues. (See previous issue of TB Notes for a related story.) Recently two billboards were placed within the NN (at Gallup and Farmington) to reach out to the public about TB.

There are plans to place a similar ad in the movie theater in Gallup to further inform about the signs and symptoms of TB. It is hoped that increased awareness of the signs and symptoms of TB will encourage individuals to seek timely medical assistance.

An important TB/HIV educational conference is held in this region each year in October, the TB/HIV Four Corners Conference. This year, New Mexico will host the conference. The 17th Annual TB/HIV Four Corners Conference will provide TB and HIV education to clinicians and nurses in the four-state area (New Mexico, Arizona, Utah, and Colorado) and in the NN. By providing TB-specific education, it is hoped that clinicians will consider TB in their differential diagnosis.

The NM TB program is also collaborating with the NM Office of Border Health to begin a similar educational effort in the southern part of New Mexico. On November 15–16, 2011, a binational TB conference, "UNIDOS: Managing Tuberculosis and its Co-morbidities along the U.S.-Mexico Border Region," will be held in Las Cruces, NM, to address the TB educational interests of Mexican and U.S. clinicians in the border region.

Through these concerted efforts across New Mexico, the TB program hopes to see an increase in the number of TB cases that are successfully diagnosed and treated and ultimately a decrease in TB mortality.

—Diana Fortune RN, BSN
TB Nurse Consultant
Acting New Mexico TB Program Manager

Contact Investigation Among Liberian Refugees in Greensboro, North Carolina

In March 2010, an extensive contact investigation among a group of Liberian refugees in Greensboro, North Carolina, began with a call to Tuberculosis Control at the Guilford County Department of Public Health from a representative of the inpatient pediatric unit at University of North Carolina Hospitals. We were informed that they were caring for a 7-month-old infant who had been referred from our community hospital. After 4 or 5 months of intermittent fever, heavy sweating, and cough, the child's chest x-ray showed that his left lung was nearly opacified by consolidation and infiltrate. "Philip" had a positive TB skin test, and both bronchial washings and gastric aspirates were positive for acid fast bacillus. PCR was positive for *Mycobacterium tuberculosis*, and he had been started on standard four-drug therapy for pulmonary tuberculosis. The child had been born in the U.S., but his mother was a refugee from Liberia; his father, who did not live with the family, was from Sierra Leone.

We began an immediate search to locate the source of Philip's exposure and infection. The father had a history of a prior positive TB skin test, but had completed treatment for latent TB infection; his chest x-ray showed that his lungs were clear, and he was asymptomatic. The child lived in a household of nine people—himself, his mother, grandmother, aunt, and five cousins. All those who had come as refugees had had negative TB skin tests on arrival to the U.S. in 2004, but now all were skin test positive. The three adults and four of the children had negative chest x-rays and were asymptomatic. A 2-year-old cousin had a cough and infiltrates and was also started on four-drug directly observed therapy (DOT) for tuberculosis; the other family members began preventive therapy for latent TB infection. Since children themselves are almost never infectious but are infected by untreated adults, it was clear that every member of the household had had close and prolonged contact to an adult with infectious pulmonary tuberculosis. The challenge was to identify that source case and stop the contagion.

Many of the Liberian families that became a part of this contact investigation are headed by women who fled repeatedly from the violence, terror, and deprivation of civil war in Liberia. Resettled in Greensboro, they are mutually supportive and protective; they are reluctant to share information that they believe should be kept in the family. Coming from a country with a

75 percent illiteracy rate, few of the older women are able to read or write, and they have little understanding of the western concept of disease ("In Liberia, you cough, you die"). In addition, their Liberian English is difficult to understand for the unpracticed ear, and they, in turn, have difficulty understanding standard American English.

Initially, the mother, aunt, and grandmother were reluctant to name people who were regular visitors to their home. Instead, they would invite people just to show up when the nurse was there daily to medicate the children, making it necessary to be prepared to do skin testing and arrange chest x-rays at every visit. Fortunately, the young woman who became identified as the source case was discovered in the first week.

"Jennie" was 20, pregnant, and essentially homeless, living for periods with various friends and family. Her sputum was strongly positive for acid fast bacillus making her highly infectious, so we arranged to isolate her in a motel room near the Health Department. Sullen and uncommunicative, Jennie initially offered little information about contacts. However, as trust built, members of the community were more forthcoming. Ten separate Liberian households were tested. A third child with pulmonary TB was uncovered by the Alamance County Health Department after it was discovered that Jennie had been a repeated visitor to the child's home in Burlington. In all, 89 people were evaluated for possible exposure to tuberculosis. That number included contacts at Jennie's African church plus social workers, counselors, and lawyers who participated in custody negotiations regarding Jennie's two children, the foster family caring for her year-old son, and the teachers and other infants in Philip's daycare nursery.

The complete investigation yielded four cases of active TB and 31 newly identified cases of latent tuberculosis infection. Twenty-nine people were started on isoniazid as chemoprophylaxis. Philip completed 6 months of DOT and is now an active, robust toddler. He gained 11 pounds and his grandmother refers to the TB drugs as his "eating medicine." Jennie gave birth to a healthy baby girl and completed 9 months of treatment. Over the course of treatment, she bonded with her caregivers and became helpful in the investigation.

—Reported by Betty Rogers, RN
TB Control, Guilford County (NC) Department of Public Health

2011 World TB Day Activities

DTBE and State/Local Activities

This year's U.S. World TB Day theme repeated last year's theme of *TB Elimination: Together We Can!* To commemorate World TB Day, DTBE and many others planned and carried out a variety of activities and events.

DTBE posted World TB Day activities that took place across 19 U.S. states and around the world. These activities ranged from a World TB Day coloring contest that took place in Nevada among fifth graders; to a TB Walk in Atlanta; to TB educational talks that were held in Washington, DC, Florida, Illinois, and other states.

There was a great turn out for the TB Awareness Walk on Saturday, March 19, at Grant Park in Atlanta. While the main sponsor was the National TB Controllers Association, many individuals and groups contributed to make the event successful. There were over 1,500 online registrations, and well over 900 people showed up to participate.

In honor of World TB Day and to provide CDC and its external partners with a prime opportunity to hear about and discuss TB/HIV-related problems and solutions, on March 24, CDC

Director Dr. Thomas Frieden hosted a special session of CDC's Public Health Grand Rounds entitled *TB & HIV: A Deadly Duo*. The event took place at Roybal Campus, from 11 am to 12 pm, and turned out to be very successful. Presentations were given by Drs. Jay Varma, Kevin Cain, Taraz Samandari, Mario Raviglione (WHO), and Thomas Frieden. Over 17,000 viewers tuned in for the webcast of this Public Health Grand Rounds event.

The CDC World TB Day Observance also took place on March 24 at Roybal Campus, from 1 pm to 2:30pm. The keynote speaker was Dr. Alan Hinman, Senior Public Health Scientist at The Task Force for Global Health in Atlanta and former director of our Center (when it was called the Center for Prevention Services). Other invited speakers were Dr. Kevin DeCock, Director of CDC's Center for Global Health; Dr. Kenneth Castro, Director of DTBE; and Dr. Bisrat Abraham, EIS officer in DTBE. This event was also well received.

World TB Day continues to provide an opportunity for those working in TB control to communicate TB-related problems and solutions and to support worldwide TB-control efforts. We hope you will continue to share your World TB Day stories with us!

—Reported by Ije Agulefo, MPH
Div of TB Elimination

Around the World on World TB Day

Gaborone, Botswana
Gaborone District hosted a 2011 National TB Day commemoration on March 24, 2011, in Gaborone, Botswana. The theme of this event was "On the Move Against TB: Transforming the Fight Towards Elimination." The annual event aims at empowering the community with information and raising awareness of TB disease and treatment. CDC Botswana has been involved in this event; Rosanna Boyd, Principal Management Officer, participated in planning meetings and attended the event on the 24th.

Additionally, CDC Botswana participated in activities in Francistown in commemoration of World TB Day. On Saturday March 19, 2011, CDC Botswana staff attended a community event to provide health education and TB awareness talks at the Light and Courage Coping Centre in Francistown, Botswana. CDC Botswana also collaborated with two local clinics and a local mining company to conduct intensive TB case finding and provide TB education.

Southeast Asia Region
The Thai Ministry of Public Health (MOPH), Global Fund, and Raks Thai Foundation jointly hosted a World TB Day event and TB awareness campaign at the largest railway station in Bangkok. The campaign distributed TB messages related to the upcoming national TB prevalence survey plan, and general information about TB prevention and care in communities. CDC and USAID jointly hosted a booth at the event. The highlight included speeches by the Minister of Public Health, a contest of innovative TB promotion materials, a TB risk assessment, performances by Thai traditional and popular singers, and fun games and quizzes.

Stockholm, Sweden
To mark World Tuberculosis Day on March 24, 2011, the European Centre for Disease Prevention and Control (ECDC) highlighted the importance of eliminating childhood TB in the EU/EEA. Among other activities, on March 18, ECDC launched a special theme site on childhood TB, entitled "Spotlight on tackling tuberculosis in children: towards a TB-free generation." This site features ECDC's three key messages on childhood TB as well as the latest surveillance findings and a report on TB surveillance in Europe (2009), a short video on "Childhood Tuberculosis in the EU," and a documentary produced in collaboration with Euronews on children with TB in Europe ("Euronews science special: Tuberculosis in

children," aired March 21). Furthermore, on March 17 and 18, ECDC collaborated with the Stop TB Partnership in hosting an international meeting on childhood tuberculosis in Stockholm, Sweden.

—Submitted by Kawi Mailutha, MPH
Div of TB Elimination

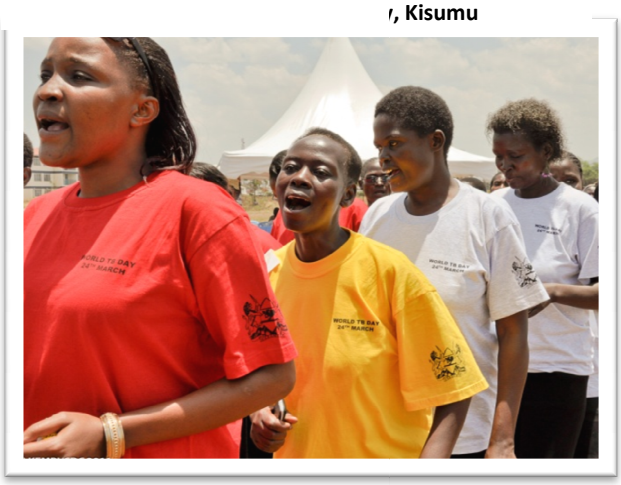
Perseverance Celebrated at This Year's World TB Day in Kisumu

When Pamela Juma, a widow with five children, was diagnosed with TB for a second time, she knew she was in for a difficult time. "By the time I went to Russia hospital, the Provincial General Hospital (PGH) in Kisumu, I looked bad and my family had given up on me." To make matters worse, she learned she was HIV positive at the same time. Pamela was unable to work for more than a year while she recovered. "My two oldest children had to drop out of school because of no school fees and no food, and my eldest child began selling plastic bags in the market so we could buy food," she said.

Pamela Juma, happy in her work as a TB Ambassador

Though the recovery was long, Pamela is now TB free and has been taking good care of herself ever since. She says the thing that gave her the most support when she most needed it was joining the patient support group at the hospital. And as she grew stronger during her recovery, she realized she wanted to do something to help

ıing the crowd with
ı, Kisumu



others in similar situations. "I saw a lot of deaths from TB in my neighborhood and I wanted to do something." Pamela was lucky because while she was in the support group, the ministry of health began a training program for community health workers. After her training, she began volunteering at the hospital. Later KEMRI/CDC offered more specific training in TB, and she became a TB Ambassador working in her community. She started speaking at community gatherings (Barazas) about her TB recovery experience and HIV status, and her neighbors really began seeing her as someone they could confide in.

Today Pamela works with TB researchers on a pilot program for directly observed therapy (DOT) in Manyatta, an informal settlement in Kisumu East district -- a district that saw 2,909 confirmed cases of TB in 2010. This program is in preparation for the KEMRI/CDC TB Trials Consortium drug trial set to start in 2011. Basically, a TB patient registered at the PGH is assigned to a community health worker (CHW) residing in their locality. Every day the CHW visits the patient's home to observe and document the patient taking their TB medication. They also remind patients of scheduled follow-up visits. Pamela is currently visiting four TB patients every day in their homes. "Everyone is very supportive and welcomes my help," she

said. She has so far identified one case of drug-resistant TB among her patients, and only once did a man refuse her help. He changed his mind, though, when one day his daughter asked Pamela to take him to the hospital because he had deteriorated. "He is now one of the people I follow each day, and he is doing well." So far researchers have seen a marked reduction in defaulters, with 140 patients enrolled in the program and 40 of these patients completing treatment successfully.

—Reported by Alan Rubin
KEMRI/CDC Field Research Station

2011 EIS Conference

CDC's 60th annual Epidemic Intelligence Service (EIS) Conference was held April 11–15, 2011, in Atlanta. EIS is a postgraduate on-the-job program of service and training in applied epidemiology. EIS has trained over 3,000 officers since 1951, and many EIS alumni attended 60th anniversary commemorative events over the April 9–10 weekend. EIS officers have historically served as CDC's primary resource for responding to urgent public health problems. Currently, about 160 EIS officers are serving in 2-year assignments throughout CDC, in state and local health departments, and other federal health agencies.

The April EIS conference functions both as a forum for current EIS officers to deliver scientific presentations about their work and as "match week" for incoming EIS officers. This year, DTBE successfully matched with three of the 79 members of the incoming class.

Incoming EIS Officers (Class of 2011)

Sara Auld, MD will be one of the new EIS officers in the International Research and Programs Branch (IRPB). Sara completed her undergraduate studies at Stanford University and medical school at Columbia University in New York. She became interested in global health when she spent a year during medical school doing HIV research in Durban, South Africa. She has also worked in community health programs and hospitals in the Dominican Republic, Malawi, and Uganda. She finished her internal medicine residency at Massachusetts General Hospital in Boston in 2010 and stayed on there as a hospitalist. Since completing residency, Sara has also been working with a colleague to create a Global Health Service Corps (www.globalhealthservicecorps.org) that would support health systems strengthening and medical education in developing countries.

Terrence (Terry) Lo, DrPH, MPH will be the other new EIS officer in IRPB. Terry completed his BS at UC San Diego, MPH at Emory University, and his DrPH at UC Berkeley. He first became interested in international public health and epidemiology when he accidentally wandered into a medical entomology class 13 years ago. Since then he's worked as an epidemiologist for California's STD Control Branch as well as various public health projects abroad in east and west Africa and south Asia. Most recently he completed his dissertation work on a telemedicine and family planning project in rural Uttar Pradesh, India. In his free time, Terry enjoys being outdoors and being on things with two wheels, and counts traveling and photography as hobbies.

Robert Luo, MD, MPH will be the new EIS officer for the Surveillance, Epidemiology, and Outbreak Investigations Branch (SEOIB). Robert received his BA from Harvard University and MD and MPH from Johns Hopkins. He is currently finishing his residency in anatomic and clinical pathology at Stanford University and is interested in improving diagnostic methods and laboratory-based surveillance for TB. He has worked on TB projects in a number of settings, most recently in California, North Korea, and Vietnam. Originally from the San Francisco Bay Area, Robert enjoys trail running and singing karaoke, though fortunately not at the same time!

DTBE Honors at the EIS Conference

Matthew Willis, MD, second-year EIS officer, won the J. Virgil Peavy Memorial with his presentation, "Seasonality of Tuberculosis — United States, 1993–2008." The Peavy Award recognizes the effective and innovative application of statistics and epidemiologic methods to a study or investigation.

A presentation by Brian Baker, MD, first-year EIS officer, entitled "Healthcare-Associated Outbreak of Tuberculosis — Puerto Rico, 2010," was nominated for the Mitch Singal Excellence in Occupational and Environmental Health Award.

First-year EIS officers Lindsay Kim, MD, MPH and Gloria Oramasionwu, MD, MPH also delivered interesting and well-received presentations based on their analyses from clinics serving people living with HIV/AIDS in Cambodia, Thailand, and Vietnam during 2006–2008. Dr. Kim presented on symptom-based screening for TB, and Dr. Oramasionsu presented on using stool culture as a potential new approach to detect pulmonary TB.

An alumnus of the EIS class of 2006, staff epidemiologist Adam J. Langer, DVM, MPH won the James H. Steele Veterinary Public Health Award for contributions over the past decade in the field of veterinary public health, not only as a CDC employee but also through his strong professional affiliation and additional volunteer work in veterinary medicine.

Outgoing EIS Officers (Class of 2009)
Bisrat Abraham, MD, MPH, will start a fellowship in infectious diseases at Cornell University after completing EIS in June. Matthew Willis, MD, MPH, will be moving back to California to serve as a clinician and educator in the public health system. Eleanor S. Click, MD, PhD, will stay on with DTBE as a medical epidemiologist with IRPB and the Laboratory Branch.

We in DTBE thank our outgoing EIS officers for their hard work and contributions during their time with us, and look forward to welcoming our new EIS officers this summer!

—Reported by Maryam Haddad, MSN, MPH
Div of TB Elimination

TB EDUCATION AND TRAINING NETWORK UPDATES

Member Highlight

In this issue of TB Notes we are highlighting Franklin Nwaoha, MBBS, MD, an international member from Nigeria. Dr. Nwaoha graduated as a medical doctor from the University of Ibadan.

Dr. Nwaoha currently serves as the Director of Programs for Francon Services and is also a Research Assistant with the University College Hospital in Ibadan, Nigeria. He describes his program's primary activities as ensuring the implementation and assessing the effectiveness of directly observed therapy, short-course (DOTS) in the treatment of TB patients in southwestern Nigeria. In that area, he says, poor

treatment adherence is leading to the development of multidrug-resistant (MDR) TB. His program also assesses adherence to antiretroviral drugs for HIV patients in southwest and northern Nigeria. The populations they serve include persons with TB, leprosy, and HIV/AIDS.

Dr. Nwaoha is responsible for developing, planning, and coordinating strategies and programs for ensuring and increasing adherence to TB and HIV treatment, with the ultimate aim of preventing the development of drug resistance. In developing these strategies, he takes into consideration the behavioral as well as the clinical aspects of adherence. He also provides HIV prevention services, which include the administration of pre-exposure prophylaxis and the provision of antiretroviral-based microbicides.

When asked about a recent training or education product or program he had developed, Dr. Nwaoha cited an awareness and education campaign to educate the public about the risks of becoming infected with *M. bovis* through the consumption of unpasteurized milk.

Dr. Nwaoha first learned about TB ETN through an online search. He joined TB ETN so he could learn about new, cutting-edge prevention and intervention strategies and programs that can be implemented in his home country of Nigeria.

He is also a member of the TB ETN Membership Development Workgroup. He joined this workgroup to gain knowledge from the experience of others, so as to "know what is working" in TB education and training. He also wishes to be able to contribute to the advancement of the workgroup and of TB ETN.

Dr. Nwaoha has some specific ideas for what he would like TB ETN to accomplish in the next couple of years. He hopes that TB ETN will work to have its collective voice heard and disseminated more effectively, reaching out more to the international community and ultimately helping to curb TB infection by increasing its membership.

While it is hard to imagine Dr. Nwoaha having any free time with his busy work schedule, he also finds time for volunteer work, watching movies, playing table tennis, traveling, reading, dancing, acting -- in general, anything that adds value to life gives him tremendous joy.

If you'd like to join Dr. Nwoaha as a TB ETN member and take advantage of all TB ETN has to offer, please send an e-mail requesting a registration form to tbetn@cdc.gov. You can also send a request by fax to 404-639-8960 (attention: Teresa) or by mail to TB ETN, CEBSB, Division of Tuberculosis Elimination, CDC, 1600 Clifton Road, NE, Mail Stop E10, Atlanta, GA 30333. If you would like additional information about TB ETN, please visit the TB ETN website .

TB ETN Educator of the Year Award Open for Nominations

The TB Education and Training Network (TB ETN) is currently accepting nominations for the 2011 TB Educator of the Year and the Project Excellence awards. The awards were established in 2010 to recognize excellence in TB health education and training by TB ETN members around the world.

The TB Educator of the Year award recognizes a TB ETN member who has shown dedication and leadership in the field of TB education and training. The recipient of the 2010 TB Educator of the Year Award was Elisabeth (Beth) Kingdon. Beth is the TB Education Coordinator/Planner for the Minnesota Department of Health's TB Prevention and Control Program. Throughout her 6 years with the program, Beth managed the development of numerous projects; including the redesign of the program's website, the development of five patient education fact sheets available in 14 different languages, and the development of a TB DVD.

The Project Excellence award recognizes TB ETN members who have developed an exceptional health education and training product or activity within the past 2 years. The recipients for the 2010 Project Excellence Award were Joan Mangan and Katie Rowan for their contributions to the development of the *Cultural Competency and Tuberculosis Control: Country Specific Guides.* The *Country Specific Guides* provide epidemiological information for both TB and HIV; common misperceptions surrounding the etiology, disease transmission, and cures for TB and HIV; as well as material on the stigma surrounding these diseases.

To be eligible for either award, nominees must:

- Hold an "active" TB ETN membership* and
- Be currently practicing in the area of TB education and training.

* Individuals must have been registered as an "active" member of TB ETN for at least 6 months prior to nomination. Participation in a TB ETN workgroup is not an eligibility requirement for the awards.

TB ETN members can self-nominate or be nominated by someone else.

Nomination forms can be accessed from: http://www.cdc.gov/tb/education/Tbetn/educatorawards.htm

Nominations must be received no later than Friday, July 15, 2011. The awards will be presented during the annual TB ETN conference, September 20–22, 2011, in Atlanta, GA.

TB PROGRAM EVALUATION NETWORK UPDATE

The Evolution of Cohort Review in an Urban Setting – Experiences from Chicago, Illinois

The cohort review is a systematic review of TB patients and their contacts. A "cohort" is a group of TB patients identified over a specific period of time, usually 3 months. Their cases are reviewed approximately 6-9 months after they are reported; thus, many of the patients have completed treatment or are nearing the end of treatment at the time when the cohort review is conducted.[1] As part of the 2010-2015 cooperative agreements (CoAgs), TB programs are required to conduct at least one cohort review per year as part of program evaluation activities.[2] CDC outlines three models for conducting a cohort review to account for program requirements and resources.[2] Additionally, the CoAgs outline the frequency for cohort reviews depending on the program's total number of TB cases per year.[2] Chicago has been among the top 5 for cities reporting TB cases, with a record low incidence in 2010 of 161 cases. Chicago implemented the cohort review process in 2005. This article illustrates the evolution of cohort review at the Chicago Department of Public Health (CDPH) TB program, from the method originally adopted in March 2005 to the method in operation as of March 2011.

In March 2005, members of the CDPH TB program received training on the cohort review process by the Charles B. Felton National Tuberculosis Center at Harlem Hospital and the New York City Department of Health and Mental Hygiene Bureau of Tuberculosis Control. Chicago conducted its first cohort review in June 2005, 3 months following the initial training. Following the New York City cohort review model, TB cases were presented by the staff member who had most contact with the case,

usually the case manager, contact investigator, or DOT outreach worker. The following data regarding TB cases, case management, and contact investigations were presented about each patient:

- Patient's clinical status
- Patient's treatment outcome
- Adequacy of the medication regimen
- Treatment adherence or completion
- Results of contact investigation
- Percentage of contacts who did, or are likely to, complete treatment

Each case was reviewed by the TB Medical Director, the TB Supervising Physician, and the Field Manager. All cases were presented sequentially, and data were entered into a spreadsheet by the epidemiologist, who would conduct real-time analyses and present results at the end of the day to the entire TB staff. After four quarters of conducting cohort review, Chicago evaluated its process. The most frequent feedback comments from staff were the following:

- Most preparatory work was being done a few days prior to cohort review
- Mandatory full-day meetings were long, tiring, and not applicable to all staff
- Use of a standardized, repetitive script resulted in missed or limited learning opportunities

In response to this feedback, the CDPH modified the cohort review format in early 2007. With the new format, each clinic site had a designated time slot to present its cases before the TB Panel. All other aspects of the initial cohort review process were maintained. Because not all staff were present for the whole day, results were provided to staff later via e-mail and/or fax.

Cohort review continued with this format until 2010, when Chicago again evaluated its process. Comments from staff at this time were the following:

- Cohort review resembled monthly case conferences
- Limited utility for staff
- Delayed results made cohort review incomplete

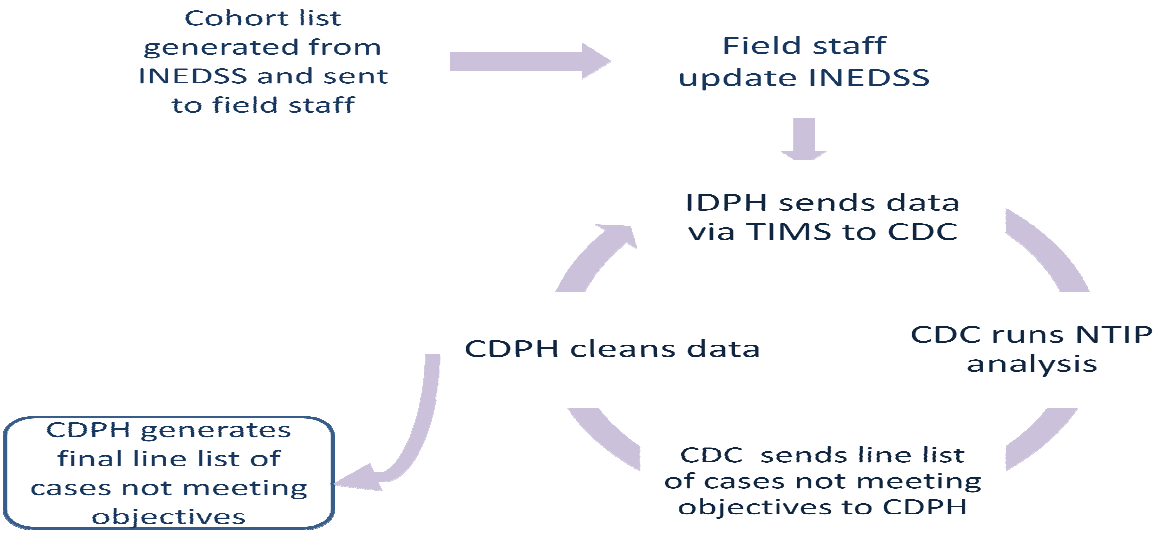
Based on this feedback, the CDPH again planned to restructure its cohort review process. The objectives of this restructuring were to:

- Utilize National TB Indicators as program evaluation outcome measures
- Decrease the redundancy with case conferences
- Make the meeting more meaningful and useful for staff
- Identify areas for program improvement
- Utilize data that TB staff were inputting into the surveillance system for Illinois
- Use the Illinois-National Electronic Disease Surveillance System (I-NEDSS)

In order to achieve these goals, the cohort review process was dramatically changed, and a new process for data flow was developed (Figure 1, next page).

An initial cohort review list is generated using data from I-NEDSS and is sent to field staff who review and update missing or incomplete information. Data are then sent to CDC by the Illinois Department of Health (IDPH) via TIMS. CDC runs the NTIP analysis and sends a line list of cases not meeting the NTIP objective back to Chicago. CDPH reviews the line list, cleans the data, and inserts missing information. The cleaned data would again be sent to CDC, which would run an analysis and generate a new line list. CDPH would again review the results and would generate a final line list of cases not meeting each NTIP objective. Cohort review would focus only on cases not meeting the NTIP objectives, allowing TB staff to identify gaps in patient care, contact investigations, and data management.

Figure 1: Data Flow for Chicago Cohort Review in 2010



Patient X

Clinic Site	NTIP Measure	Met Objective
Field Team	Treatment Initiation (days)*	
Age	Recommended Initial Tx	
Gender	Sputum Culture Reported	
Site of Disease	Sputum Culture Conversion	
Positive Sputum Culture	Completion of Treatment	
Sputum Smear	Known HIV Status	
Recommended duration of Tx	Drug Susceptibility	
DOT (yes/no)	Genotyping	
HIV	Contact Investigation	
Underlying conditions	Contact Elicitation	
other	% evaluated	
	% LTBIs who started Tx	
	% LTBIs who completed Tx	

In 2011, Chicago realized it needed a locally sustainable method for cohort review data analysis that did not rely on a CDC epidemiologist. Additionally, the new CDC guidelines for cohort review suggest TB programs should review every case in the cohort.

In response to these two concerns, CDPH modified its cohort review process, while retaining several aspects from the pilot project. CDPH continues to use NTIP indicators; however, analysis is conducted by CDPH using I-NEDSS data. Each patient's case and his or her

contacts are reviewed, but staff only focus on NTIP indicators where the objective was not met. Each case in the cohort will have its own slide (Figure 2, previous page). NTIP indicators not meeting the objective are color-coded in red; those in green have met the objective. Only red-colored variables are discussed during cohort review. Because data are input by field staff on an ongoing basis, the cohort process is continuous throughout the year.

Though there have been several revisions to Chicago's cohort process, we believe the current model best addressed CDPH TB program needs. However, we would not have been successful if we had not listened to the staff feedback and been willing to re-evaluate our process frequently and make modifications. As we look to the future, we are hoping to expand the NTIP indicators that we currently review, and perhaps to include other variables that will assist with program evaluation.

—Submitted by Neha Shah, MD, MPH, DTBE Field Medical Officer, Chicago Dept of Public Health, Juan Elias, Supervising Communicable Disease Investigator, Chicago Dept of Public Health, and Stephen E. Hughes, PhD, TB PEN Co-Chair, NY State Dept of Health

References

1. CDC. Understanding the TB Cohort Review Process: Instruction Guide. Atlanta, GA: U.S. Dept. of Health and Human Services, CDC; 2006. Available at http://www.cdc.gov/tb/publications/guidestoolkits/cohort/element2.htm#1

2. Moran J and Scavotto J. Dear Colleague letter and attached "CDC Division of Tuberculosis Elimination TB Cohort Review Guidance" [unpublished]. Atlanta, GA: CDC; August 9, 2010.

INTERNATIONAL RESEARCH AND PROGRAMS BRANCH UPDATE

Behind the Scenes of the Botswana IPT Trial

From her seat on the minibus, Segometse smiled wanly as she saw her village water tower on the horizon. As the minibus lurched from the highway onto an unpaved road, she clutched the bag on her lap; to her horror, the pills in her bag rattled. Her seat-mate heard the sound and raised her eyebrows. Segometse knew the raised eyebrows meant, "Rattling pills tell me that you are infected with HIV." Everyone knows everything about everybody in a small village, so she plucked up her courage and told her seat-mate, "I am taking pills to prevent TB." But the reality was that she *was* infected with HIV and, living in Botswana, she had a high risk of developing TB. That's why Segometse had enrolled in a CDC study to prevent TB, the IPT Study.

About half of Botswana's 1.8 million people are infected with TB. A quarter of persons aged 15-49 are also infected with HIV, with women disproportionately affected. As the risk of progressing from latent TB infection to TB disease is very high for HIV-infected persons, there has been a three-fold resurgence of TB in Botswana since its nadir in 1989; rates are now 200 times higher than the rates observed in the United States. Botswana is in the midst of a severe co-epidemic.

In 2001, with the financial support of CDC's Global AIDS Program, Botswana launched a nationwide TB prevention program of isoniazid preventive therapy, or IPT. Years of research had shown that a 6-month course of IPT reduces the risk of TB disease by 30%-60%. The problem now was that, in places with a lot of TB, the benefit of 6 months of IPT was disappearing after a year or two. In other words, the risk of TB disease in HIV-infected persons living in a TB-

prevalent country went back to being very high once they stopped IPT. Could it be that because there was so much TB re-infection in such communities, an HIV-infected person would need to continue IPT without stopping? This question drove a unique CDC study in Botswana between 2004 and 2009.

CDC frequently conducts epidemiologic research in resource-constrained countries, and such projects are rarely easy. However, the Research Team would be conducting a clinical trial, an altogether different kind of undertaking. Clinical trials must be conducted with meticulous care. An external data and safety monitoring committee had to be established; an endpoints committee of experts had to be assembled to agree on whether the cases of TB found were really TB; a U.S.-based auditing company had to be hired; study drugs had to be imported under stringent temperature control after undergoing customs scrutiny in countries where it was not customary to have air conditioned airport warehouses; a data system needed to be set up to record every visit of 2,000 study participants for 3 years. No clinical trial had previously been completed by CDC in Botswana. The entire Team had a steep learning curve before the planned launch of the clinical trial 12 months after being given the green light to begin preparations.

Several challenges faced the study. By 2003, Botswana had rolled out a nationwide program of free antiretroviral therapy (ART), for which all HIV-infected persons were eligible. Since it was well known that ART reduced the risk of TB, many clinicians and public health officials assumed that this would render IPT superfluous. Furthermore, a common concern about IPT among many physicians in Botswana was that the widespread use of IPT would inevitably result in isoniazid resistance. In fact, some doctors were taking their patients off IPT when they started ART.

A key aspect of research involving human subjects in the modern ethical era is to engage the community and the participants as advisors to studies. The members of the two community advisory boards in Botswana included social workers, a university instructor, traditional healers, health workers within the military and police forces, and church pastors. From among the participants in the study itself, two 10-person advisory groups were also assembled. At first most of them seemed reluctant members, quiet and withdrawn. Perhaps they wondered whether their opinions really counted; perhaps they remained suspicious that their HIV status might be exposed and result in embarrassment or shame. However, as they came to see that the TB-HIV Research Team earnestly sought their opinions and candidly presented the successes and challenges of the study, they soon became eager and vocal advocates of the study.

The hiring of new staff resulted in a doubling of the TB-HIV Research Team to 40 persons. Never having conducted a clinical trial, the team desperately needed education. They also needed to receive certification in good clinical practice, or “GCP.” Training in GCP was something that an external, certified organization had to come to Botswana to conduct annually. The senior staff worked hard to quickly prepare numerous standard operating procedures, forms, and appendices. Multiple training sessions were conducted and staff members were repeatedly tested on their knowledge.

The first shipment of drugs arrived a few weeks before the planned launch of the study. The Team fretted over data from the temperature log suggesting that the drugs had overheated in the simmering southern African sun. They breathed a collective sigh of relief when the manufacturer reassured them that brief periods of high temperature exposure did not damage the drugs’ integrity.

Shortly after Thanksgiving Day in 2004, the first participant was enrolled. The Team cheered. Recruitment was deliberately slow at first in order to work out the kinks. It felt as though a lumbering jumbo jet – with thousands of parts and pieces – had finally taken into the air, and the Team prayed that all the nuts and bolts were tied securely. And now that the study had begun, focus had to be maintained, day after day, week after week, for the next 5 years. Continuous quality control became the Team's mantra: supervisors scrutinized the work of front-line staff, laboratory technicians double-checked results, and data being entered were regularly analyzed and cleaned. An ethic of close collaboration between all cadres of workers was established through weekly meetings. During these meetings, statistics about the trial's progress were shared and difficulties were aired. No Team member was too low in the hierarchy to be ignored or left unheard; everyone was a critical part of this effort.

In the middle of 2006, after having screened over 4,300 persons, they succeeded in recruiting their target of 2,000 HIV-infected participants. A celebration marked the occasion, yet many challenges remained. Diagnosing TB is notoriously difficult in HIV-infected persons. Whenever a participant became ill, the physician repeatedly tested him or her. About 10 ill persons were carefully assessed for each case of TB that was diagnosed; in a prevention clinical trial it is critical not to miss any TB case.

The Team agonized over every death. Was it caused by TB? Could it have been caused by isoniazid? The deaths were particularly hard to take for the study nurses. They personally knew the difficulties each participant faced in his or her life: unemployment, insufficient food, children who also were infected by HIV, or abusive boyfriends. There were homicides (commonly referred to as "passion killings") and even suicides among the participants.

Finally, in July of 2009, the study came to a close: the last participant took her last pill. Now the code for this double-blind, placebo-controlled study could be broken. Feverish work by the study's statistician in Atlanta gradually painted the picture. Some findings were expected and—as is typical in science—there were surprises too.

They discovered that continuous IPT worked: it prevented TB better than the 6-month regimen recommended by the World Health Organization (WHO) and used in Botswana. Upon closer examination, there was an astonishing 92% reduction in TB among participants who were tuberculin skin test (TST) positive. However, the TST-negative participants did not benefit significantly from continuous IPT but suffered a 1%-per-year rate of TB disease. This was a big disappointment since most HIV-infected persons coming for care in resource-constrained settings are TST-negative. Perhaps being TST positive not only indicated infection with TB, but also that the individual's immunity was sufficiently competent to derive a synergistic benefit from the isoniazid and thus kill the TB bacillus.

A final observation from the IPT study was a source of relief to the Team and TB Program managers in particular: using isoniazid, even for such extended periods of time, did not appear to select for drug-resistant TB.

This study quickly resulted in changes to WHO policy. In January 2010 the results of the study, along with results by other researchers, led to recommendations to provide up to 3 years of IPT where possible and to provide IPT in addition to ART, and a stronger recommendation to administer the TST before initiating IPT. In mid-2010, Botswana's national program changed its policy to require the TST. Upon hearing the initial report, one health official said, "Finally we can see the impact of what we have been doing all these years."

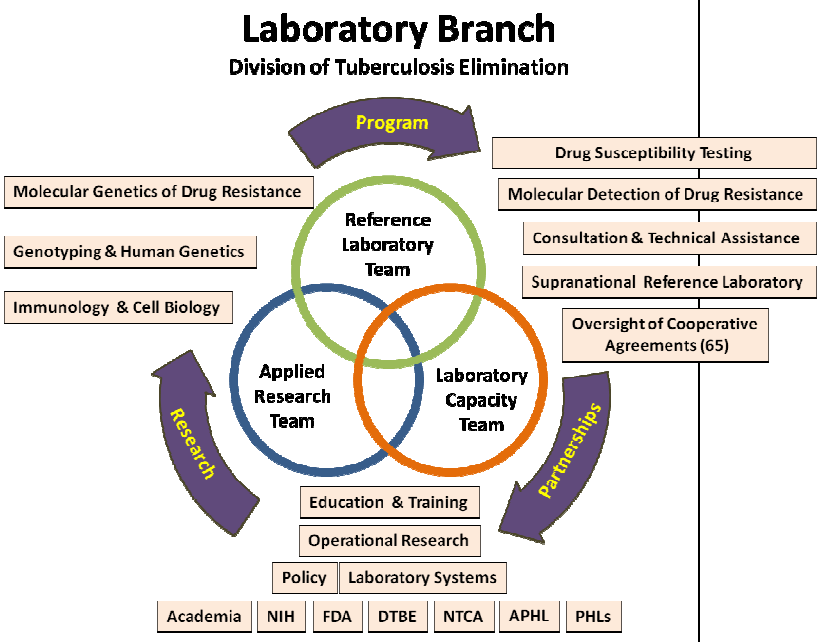
The recruiters had appealed to the participants' higher sense of self when inviting them to join the

study: "Help other HIV-infected persons in Botswana and around the world." The study's results provide new hope to HIV-infected persons like Segometse. Without the selfless participation of people like her, the study would never have been possible.

—Reported by Taraz Samandari, MD, PhD
DHAP, Epidemiology Branch Chief
Formerly Div of TB Elimination

LABORATORY BRANCH UPDATE

DTBE Laboratory Branch Forms Laboratory Capacity Team



The Laboratory Capacity Activity, previously in the Reference Laboratory Team of the Laboratory Branch of DTBE, has been reconstituted as the Laboratory Capacity Team. This is a positive reflection of the expansion of work and responsibility, driven by public health need to accelerate our path to elimination in the United States. As a new team, its members will continue to focus on oversight and provision of technical assistance for cooperative agreements; laboratory systems-related operational research to accelerate decline of tuberculosis; education and training to address professional workforce competency and capacity; and collaboration with internal and external partners. These functions complement the other two teams within the Laboratory Branch, the Reference Laboratory Team and the Applied Research Team to create an important positive synergy within the branch. The structure and functions of the Laboratory Branch are depicted in the schematic here.

Angela Starks, PhD, has been competitively selected to serve as the leader for the Laboratory Capacity Team. Angela is well known in the tuberculosis public health community as she came to DTBE in June 2005 to what was then the Mycobacteriology Laboratory Branch through the Fellowship in Research and Science Teaching program at Emory University. On completion of her postdoctoral fellowship, she joined the laboratory as a Title 42 senior service fellow. She conducted research on the molecular mechanisms of drug resistance for *Mycobacterium tuberculosis* and served as a co-instructor and guest lecturer at Spelman College. Since December of 2008, Angela served as the leader of the Laboratory Capacity Activity under the mentorship of Beverly Metchock, DrPH. Angela received her PhD in Biomedical Sciences, with a concentration in Microbiology and Immunology from the University of Florida and is currently pursuing an MPH in Public Health Practice from the University of South Florida, Gainesville.

—Submitted by Bonnie Plikaytis
Div of TB Elimination

SURVEILLANCE, EPIDEMIOLOGY, AND OUTBREAK INVESTIGATIONS BRANCH UPDATES

The TB Genotyping Information Management System — an Assessment of Timeliness 6 Months after Launch

Background: The TB Genotyping Information Management System (TB GIMS) was launched in March 2010 to improve access to and use of genotyping data by state and local TB programs. In order for genotyping results to be used in routine TB control activities, it must be available to TB GIMS users in a timely fashion. Additionally, genotyping results must be linked to patient surveillance records so that patient demographics and risk factors are also available for creating reports and maps. To identify ways to improve access and usefulness of genotyping data, we assessed the timeliness of genotyping and surveillance data flow in TB GIMS and attempted to identify barriers to timeliness within the system.

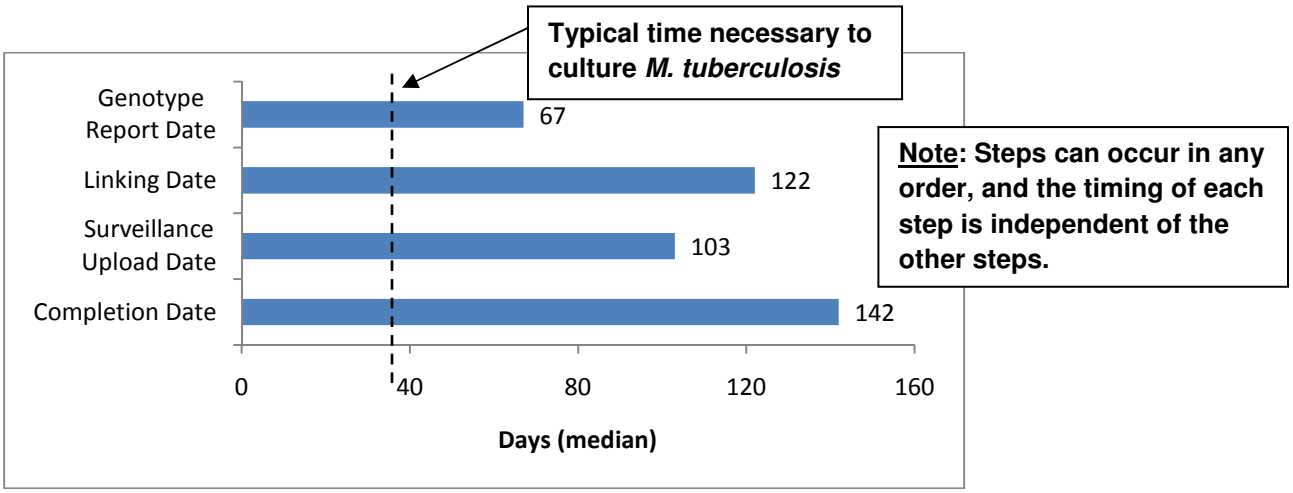
Methods: The National TB Controllers Association, with technical assistance from CDC, conducted a web-based survey of 337 TB GIMS users in September 2010. In addition to the survey, we also analyzed TB GIMS system-generated data from isolates received at the genotyping labs during an 8-week period (May–July 2010). Over 1,000 records from 45 states were included in the analysis.

When analyzing data flow in TB GIMS, we used specific dates to define movement of information through the system.

- **Genotype Report Date** is the date that genotyping results were entered by the genotyping lab into TB GIMS.
- **Surveillance Upload Date** is the date that surveillance data (initially reported to CDC by individual jurisdictions) were uploaded from CDC to TB GIMS.
- **Linking Date** refers to the date the state case number (for a specific genotyped isolate) was entered into TB GIMS by the state TB program to link genotype results to surveillance records.
- **Completion Date** defines the date in which all three previous steps were complete and the record was available to TB GIMS users for use in TB control activities.

Results: Among active users, 189 (56%) responded from 48 states. Even though 71% of respondents reported they were satisfied or very satisfied with TB GIMS, only 49% were satisfied with the timeliness of the system. Analysis of system data showed that the median time from specimen collection until record completion date was 142 days; median time to linking was the longest of the three steps (Figure 1). The most common rate-limiting step was linking (42% of records), followed by upload of surveillance data (37%). Genotyping was the rate-limiting step for only 21% of records. To illustrate the effect of timely linking, we analyzed the time to record completion date, stratified by whether or not the record was linked at the time of isolate submission. Records that were linked at the time of submission had a median time of 96 days from specimen collection to completion date, versus 142 days for records linked after isolate submission, a difference of 1.5 months.

Figure 1. Time from specimen collection — TB GIMS system-generated data, May–July 2010 (N=1,059 records)



Finally, users were asked to name barriers to linking at the time of isolate submission. Seventy-nine percent of respondents stated that the state public health laboratory, which sends isolates to the genotyping labs, does not have access to the state case number. An additional 33% of respondents cited delays in verifying and reporting TB cases—some states wait until a case is officially verified before assigning a state case number.

Summary: Overall, users expressed a high level of satisfaction with TB GIMS but were less satisfied with the timeliness of the system. Complete records were available a median of 142 days after specimen collection, including the 4–6 week period necessary for TB culture. Genotyping was the least common rate-limiting step, and linking was the most common rate-limiting step. Records that were linked at the time of isolate submission had a dramatically reduced time to a complete record. Two areas that could improve timeliness of linking are assigning state case numbers earlier and improving communication between TB programs and state public health labs. DTBE will be working closely with state and local partners to determine the best ways of supporting improvements in these areas.

TB GIMS Update: One year after launch, the TB GIMS team is working to improve and expand the service. As of March 2011, there were over 450 active users from 52 reporting areas and CDC. Four upgrades to TB GIMS have been released and several enhanced features are being developed for the future. We are dedicated to continuing to improve the system to best fit the needs of TB programs nationwide.

Acknowledgments: We would like to thank the National TB Controllers Association, the Washington Department of Health, the TB GIMS Development Team, survey respondents, and all TB GIMS users for their important contributions.

—Reported by Brian Baker, MD
EIS Officer, Molecular Epidemiology Activity, SEOIB
Div of TB Elimination

A Year in the Life of the Surveillance Report

Have you ever wondered how *Reported Tuberculosis in the United States* (informally known as the Annual Surveillance Report) is created each year? How do all the reports of TB cases evolve from raw numbers to morbidity tables? To provide you with an insider's view of the process, I will describe a year in the life of the surveillance report.

Winter: The process starts with TB counted cases that are reported to CDC by state and local health departments. Health departments work diligently to finalize their numbers for the end of the year during this time period. After data from reporting jurisdictions are received at CDC, Surveillance team members work closely with members of the DTBE Data Management and Statistics Branch to review the data to determine whether there are any irregularities, particularly with variables that have been inconsistent in the past or have recently changed. In January, the Surveillance team asks sites for verbal case counts for the previous year, with a goal of developing a provisional data set ultimately used to create the World TB Day *Morbidity and Mortality Weekly Report* (MMWR). Bob Pratt reports, "The goal is to have our preliminary numbers be no more than 5-10 cases off from the final count, due in early March. It is rare for any surveillance group at CDC to report data from the year just concluded in March, and is a testament to the hard work of our partners that we are able to report our numbers so quickly."

Spring: After the World TB Day *MMWR* has been published, the work of data formatting and report design begins. The Surveillance team holds a meeting to divide the assignments for producing the report. In the meantime, Carla Jeffries begins brainstorming to come up with ideas for the cover for the surveillance report. Using her background as a graphic artist, she then designs the cover that you see on the report. The 2010 Report will display Carla's fourth cover design; although she is proud of all the covers she has designed, her favorite is the word cloud on the 2008 cover.

Summer: During the summer, the team double- and triple-checks the data to be included in the surveillance report. Bob Pratt creates Excel files containing the results for each table that will ultimately go into the report. Upon completing the drafts for the tables, he sends electronic copies to other surveillance team members. The team member assigned to checking the table will independently write SAS code to reproduce numbers needed for the table. This is done to avoid calculation or transcription errors.

Carla Jeffries noted that the production of the 2009 surveillance report presented unusual challenges for the team. Data checking was a particular challenge last year because it was the first year that the new RVCT form had been used. Therefore, the SAS code used to derive the data presented in each table had to be rewritten to reflect changes in the way the data were collected. In addition, many of the footnotes had changed, so the team held a meeting to discuss the definition of each table footnote. "Changes in footnotes and tables represented the biggest challenge in putting the report together," Carla stated, "because changes in one table or footnote often have a waterfall effect on other tables, leading to multiple edits." Meanwhile, with contributions from the team, Carla Winston wrote the 2009 Executive Summary, and Lilia Manangan wrote the Technical Notes.

By August most of the work of designing the report is complete. Carla Jeffries works with the Creative Services team at CDC to finalize the cover. Students or Surveillance team members create slide sets that describe the data in the report. These slides are among the most popular section of the report; since October 2010, the 2009 data slides have been viewed over 15,000 times. Once all these steps are completed and integrated into the full report, the report is entered into DTBE clearance.

Autumn: All the hard work pays off in autumn—the surveillance report is published on the web by the DTBE Communications Team. The greatest utility of the surveillance report is as a web-based product. The report has been downloaded over 8,000 times since its posting on the web, and viewed almost 50,000 times. About a month after the report is available on the web, 2,500 hard copies are printed for use by DTBE and other partners. Shortly thereafter, the process of finalizing the data for the next year begins. The Surveillance Team members thank all local and state health department staff, and people working on electronic data reporting, updates, and analysis, who make it possible to summarize TB trends each year.

—Reported by Suzanne Beavers, MD
Div of TB Elimination

NEW CDC PUBLICATIONS

Adekambi T, Butler RW, Hanrahan F, Delcher AL, Drancourt M and Shinnick TM. Core gene set as the basis of multilocus sequence analysis of the subclass Actinobacteridae. PLoS One 2011 Mar 31;6(3):e14792. Epub date April 13, 2011.

Boehme CC, Nicol MP, Nabeta P, Michael JS, Gotuzzo E, Tahirli R, Gler MT, Blakemore R, Worodria W, Gray C, Huang L, Caceres T, Mehdiyev R, Raymond L, Whitelaw A, Sagadevan K, Alexander H, Albert H, Cobelens, Cox FH, Alland D and Perkins MD. Feasibility, diagnostic accuracy, and effectiveness of decentralised use of the Xpert MTB/RIF test for diagnosis of tuberculosis and multidrug resistance: a multicentre implementation study. Lancet 2011; 377(9776): 1495-1505.

Cain KP and Varma JK. You have to find TB to treat TB. [Editorial.] Int J Tuberc Lung Dis 2011; 15(7): 854.

Gust DA, Mosimaneotsile B, Mathebula U, Chingapane B, Gaul Z, Pals SL and Samandari T. Risk factors for non-adherence and loss to follow-up in a three-year clinical trial in Botswana. Plos One 2011; 6 (4).

Holtz TH, Kabera G, Mthiyane T, Zingoni T, Nadesan S, Ross D, Allen J, Chideya S, Sunpath H, Rustomjee R. Use of a WHO-recommended algorithm to reduce mortality in seriously ill patients with HIV infection and smear-negative pulmonary tuberculosis in South Africa: an observational cohort study. Lancet Infect Dis 2011; 11: 533-40.

LoBue P. People aged above 65 treated for latent tuberculosis are at increased risk of admission for a hepatic event compared with untreated controls. Evid Based Med 2011 June 6. Epub date June 8, 2011.

Lowenthal P, Westenhouse J, Moore M, Posey DL, Watt JP, Flood J. Reduced importation of tuberculosis after the implementation of an enhanced pre-immigration screening protocol. Int J Tuberc Lung Dis 2011; 15(6):761–6.

Mac Kenzie WR, Heilig CM, Bozeman L, Johnson JL, Muzanye G, Dunbar D, Jost Jr, KC, Diem L, Metchock B, Eisenach K, Dorman S and Goldberg S. Geographic differences in time to culture conversion in liquid media: Tuberculosis trials Consortium Study 28. Culture conversion is delayed in Africa. Plos One 2011; 6 (4).

Marks SM. Diabetes and tuberculosis, US National Health Interview Survey, 2000–2005. [Short communication.] Int J Tuberc Lung Dis 2011; 15(7):982–4.

Pratt RH, Winston CA, Kammerer JS, Armstrong LR. Tuberculosis in older adults in the United States, 1993-2008. Journal of the American Geriatrics Society 2011; 59 (5): 851-7.

Samandari T, Agizew TB, Nyirenda S, Tedla Z, Sibanda T, Shang N, Mosimaneotsile B, O. I. Motsamai, Bozeman L, Davis MK, Talbot EA, Moeti TL, Moffat H, Kilmarx PH, Castro KG and Wells CD. 6-month versus 36-month isoniazid preventive treatment for tuberculosis in adults with HIV infection in Botswana: a randomised, double-blind, placebo-controlled trial. Lancet 2011; 377 (9777): 1588-98.

Samandari T, Bishai D, Luteijn M, Mosimaneotsile B, Motsamai O, Postma M and Hubben G. Costs and consequences of additional chest X-ray in a tuberculosis prevention program in Botswana. Am J Respir Crit Care Med 2011; 183 (8): 1103-11.

Sanchez F, Colomes JLL , Villarino E, and Grosset J. New drugs for tuberculosis treatment. Enfermedades Infecciosas Y Microbiologia Clinica 2011; 29: 47-56.

Spencer JS, Kim HJ, Wheat WH, Chatterjee D, Balagon MV, Cellona RV, Tan EV, Gelber R, Saunderson P, Duthie MS, Reece ST, Burman W, Belknap R, Mac Kenzie WR, Geluk A, Oskam L, Dockrell HM, and Brennan PJ on behalf of the IDEAL Consortium. Analysis of antibody responses to *Mycobacterium leprae* phenolic glycolipid I, lipoarabinomannan, and recombinant proteins to define disease subtype-specific antigenic profiles in leprosy. Clinical and Vaccine Immunology 2011; 18 (2): 260-7.

Yasinskaya Y, Plikaytis B, Sizemore C, Sacks L. Advancing the development of diagnostic tests and biomarkers for tuberculosis. [Notes from the field.] Int J Tuberc Lung Dis 2011; 15(7): 985–7.

PERSONNEL NOTES

Recipients of 2011 NCHHSTP Honor Awards -- The following individuals/groups were winners of 2011 NCHHSTP Honor Awards, and were honored at the NCHHSTP Honor Awards Ceremony on June 24. This year, DTBE submitted an unprecedented number of nominations and had more award winners than ever before. They are listed in the order in which the awards were presented.

Excellence in Epidemiology (International): Brittany Moore

Excellence in Laboratory Research: Molecular Detection of Drug-Resistant Tuberculosis Working Group -- James E. Posey, Beverly Metchock, R. David Sikes, Patricia H. Campbell, Denise Hartline, Glenn P. Morlock, Angela M. Starks, Lois Diem, Lauren S. Cowan, Jeffrey R. Driscoll, Allison J. Lentz, Tracy L. Dalton, Delaina Hooks

Excellence in Surveillance and Health Monitoring: TB GIMS Group -- Lauren Cowan, Anne Marie France, Smita Ghosh, Juliana Grant, Maryam Haddad, Adam Langer, Patrick Moonan, Tom Navin, Lee Ann Ramsey

Excellence in Frontline Public Health Service: TB Outbreak Responders Group -- Bisrat Abraham, Marissa Alexander, Ben Appenheimer, Brian Baker, Sapna Bamrah, Bruce Bradley, Lauren Cowan, Lois Diem, Derrick Felix, Anne Marie France, Smita Ghosh, Jennifer Giroux, Regina Gore, Gail Grant, Juliana Grant, Tiffany Groover, Vernard Green, Maryam Haddad, Bruce Heath, Shalom Hernandez, Christine Ho, Tony Holmes, Jennifer Horvath, John Jereb, Melissa Johnson, Jefferson Jones, Christina Khaokham, Lauren Lambert, Adam Langer, Beverly Metchock, Mark Miner, Roque Miramontes, Ted Misselbeck, Kiren Mitruka, Patrick Ndibe, Maureen O'Rourke-Futey, Farah Parvez, Krista Powell, Lee Ann Ramsey, John Redd, Kim Seechuk, Neha Shah, Melisa Thombley, Paul Tribble

Excellence in Emergency Response (International): Haiti Responders Group -- Toye Brewer, Kenneth Castro, Heather Duncan, Alstead Forbes, Maria Fraire, Stefan Goldberg, Juliana Grant, Maryam Haddad, John Jereb, Bryan Kim, Lauren Lambert, Adam Langer, Eugene McCray, Roque Miramontes, Jorge

(Miguel) Ocana, Germania Pinheiro, Cheryl Scott, Kassim Sidibe, Sean Toney, Paul Tribble, Andrew Vernon, Matthew Willis

Excellence in Administration: Resource Management Team -- Warren Benson, Juanita Elder, Pat Farah, Brenda Furr, Gloria Gambale

Excellence in Human Capital Management (Workforce Diversity): Lee Ann Ramsey

Excellence in Public Health Service (Early Career): Angela Starks

Excellence in Leadership (Non Supervisor): Maryam Haddad

Excellence in Leadership (Supervisor): Gail Grant

Excellence in Leadership (Manager): Kevin Cain

Public Health Impact Award (International): Tuberculosis Trials Consortium (TBTC) Study 26 Team -- Timothy R. Sterling, Richard E. Chaisson, Carol Dukes Hamilton, Fred Gordin, Judith Hackman, C. Robert Horsburgh, Jr., Amy Kerrigan, Richard I. Menzies, Andrew Vernon, Elsa Villarino, Lorna Bozeman, Andrey Borisov, Awal Khan, Nong Shang, Erin Bliven-Sizemore, Crystal Carter, Marie Hannett, Nigel Scott, Ruth Moro, Kimberly Chapman, Stefan Goldberg, Melissa Fagley, Margaret Jackson, Beverly Metchock, R. David Sikes, David Temporado, Lois Diem, Denise Hartline, Cindy Dougherty, Lori Hall, Chris Allen, Howard Davis, Sharon Burks, Kumar Batra, Silver Wang, Max Mirabito, Anil Sharma

NCHHSTP Field Staff Honor Awards:

Outstanding Field Supervisor: Chrispin Kambili

Outstanding Field PHA: Bruce Bradley

Outstanding Field Program Management: Farah Parvez

Victor Balaban, PhD, has joined the Program Evaluation team in FSEB as a Health Scientist. His past experience at CDC includes serving in the International Emergency Refugee Health Branch, where he developed and conducted culturally sensitive assessment and screening tools for refugee and international populations in post-conflict settings such as East Timor, Kosovo, and Sierra Leone. Victor was an EIS Officer in the CDC Injury Center, where he conducted several investigations including youth suicides in Maine and accidental firearm injuries in Puerto Rico. After completing EIS in 2005, Victor worked as a program evaluator for Macro International, a public health consulting company, where he was involved in developing PEPFAR indicators and conducting trainings in countries such as Vietnam, Ghana, and Zambia to help build program monitoring and evaluation capacity. He returned to CDC in 2008 to take a position as a Behavioral Scientist in the Division of Global Migration and Quarantine where he carried out quantitative and qualitative research on international traveler, refugee, and migrant populations including travelers to the Hajj pilgrimage in Saudi Arabia. He also developed domestic and international surveys as part of the CDC response to the 2009 H1N1 pandemic. Victor has a PhD in psychology from Emory University and an undergraduate degree in biology from Cornell University.

Kevin Cain, MD, began serving as DTBE's Lead Scientist for the KEMRI/CDC Research and Public Health Collaboration, TB Research Branch in Kisumu, Kenya in May 2011. This new in-country position will expand DTBE's field presence to include Kenya. DTBE has invested significant resources in working with the KEMRI/CDC office to set up various studies and the addition of an in-country medical officer will help to bridge and develop ongoing DTBE activities in Kenya.

Kevin joined the International Research and Programs Branch (IRPB) as an EIS officer in 2004. In 2008 he took on the role of TB/HIV Team Lead and has been the project officer for a variety of TB epidemiologic research and program-building efforts in Southeast Asia, Ethiopia, Botswana, and Latvia, mostly related to TB/HIV and drug-resistant TB.

Kevin has worked with DTBE and the Division of Global HIV/AIDS to implement a significant study in Southeast Asia of Intensified TB Case Finding in Adults with HIV. One major study in Kenya he is working on will measure the sensitivity and specificity of the algorithm identified in the Southeast Asian study, the new WHO-recommended algorithm, and the Kenya Ministry of Health algorithm, thus allowing for an informed decision about what approach is best to use in the Kenyan context.

He will also have a role in a Phase II, Double-blind, Randomized, Placebo-Controlled Study to Evaluate the Safety and Efficacy of AERAS-402 in BCG-Vaccinated, HIV-uninfected Infants without Evidence of Tuberculosis. The study will be conducted in Uganda, South Africa, Mozambique, and Kenya. He'll also help to coordinate the new drug trials activities conducted by KEMRI/CDC with CDC's Tuberculosis Trials Consortium, as well as design and evaluate intensified TB case finding activities.

It's worth noting that when Kevin and his family move to Kenya, he will be working with Dr. Kayla Laserson, Director of the KEMRI/CDC Field Research Center in Kisumu. Dr. Laserson was Kevin's EIS supervisor in 2004.

Christina Dahlstrom, MPH, has joined the Program Evaluation Team of FSEB as a Public Health Prevention Service Fellow. Christina will be assisting with TB PEN Conference Planning, ARPE data management, NTIP evaluation, and development of a TB evaluation toolkit. Her past experience at CDC includes working at the National Center for Environmental Health on the Healthy Community Design Initiative, where she worked on developing indicators to monitor elements of community design with health implications and conducted an evaluation of a state capacity building grant. Before joining CDC, Christina coordinated the development of social marketing campaigns on preconception health and contraceptive care for the Oregon Public Health Division. Christina received her MPH from Portland State University and her BSW from Seattle University.

Kim Field, RN, MSN, TB Controller for the State of Washington, retired in May. Kim served as TB Controller for 17 years, and was with the Washington State Department of Health (DOH) for a total of 22 years. She has now relocated to California and is employed as a home health nurse for Providence Home Health and Hospice in Torrance, California. Her last day working with the Washington DOH was May 13, and she started in her new position on May 23. Her work and focus in her new position is case management in home health nursing. The following is excerpted from a faculty profile of Kim from the Curry International TB Center newsletter.

Kim was born in Orange County, California, and earned her BSN at San Diego State University in 1971. She served in a variety of nursing positions in California, including primary care nurse, occupational health nurse, and public health nurse at the San Diego County Health Department. As a public health nurse in rural San Diego County, she worked with American Indian populations, as well as migrant farmers from Mexico. She recalls entering avocado orchards to provide TB treatment, including streptomycin, and performing hearing tests in farm buildings on ranches.

In the 1980s, Kim relocated to the Pacific Northwest, where she subsequently held several nursing positions. In 1989, she began her association with the Washington State Health

Department, starting as a program specialist in vaccine preventable diseases, then serving as a public health advisor administering and directing the Department's statewide ambient air program. In 1993, she became State TB Control Officer, overseeing a busy, multifaceted program.

She and her staff handled diverse issues and populations, from controlling outbreaks among the homeless and immigrant communities in the populous metro King County, to providing services to geographically isolated Native Americans in the state's rural counties. Among her program's achievements was implementation of statewide cohort reviews in 2004. Quarterly cohort review has engaged the staff of the local health departments to improve TB case management outcomes based on statewide goals.

Kim has held numerous leadership and professional positions, including past president of the National Tuberculosis Controllers Association (NTCA); member of the NTCA Executive Committee, representing a "medium incidence" jurisdiction; consultant to the National Tuberculosis Curriculum Consortium; and board member for the Washington State Public Health Association, the American Lung Association of Washington, and Service Employees International Union. Also, as a clinical instructor for the University of Washington's School of Nursing, Kim lectured to BSN and MSN students annually and mentored students working on projects in the state TB program to meet requirements in community health practice.

In addition, Kim has served as a faculty member for Curry International TB Center case management courses and as a consultant for the "Regional Capacity-Building in Low-Incidence Areas" project in Idaho, Montana, Utah, and Wyoming. She played an instrumental role in developing and implementing the highly successful "Nurse-to-Nurse" collaborative training project in several jurisdictions in the Curry center's Western Region. She was also the lead co-consultant in developing the *TB Program Manual Template* as part of the Regional Capacity-Building research project.

Kim is known throughout the "TB world" as a supportive colleague and collaborator. She will be missed, not only for her enormous skill and knowledge, but also for her kindness and generosity of spirit. Best of luck to Kim in her new position!

Maria E. Galvis, BA, joined the FSEB Field Operations Team II on June 22, 2011, as a Public Health Advisor assigned to the TB program in Las Vegas, Nevada. The Las Vegas metropolitan area includes the Las Vegas Valley (a 600-square-mile basin) and surrounding areas in southern Nevada. The area is currently the fastest growing metropolitan area in the nation, with a population rise of nearly 25% from 2006 to 2010, and has a current population of approximately 2 million. One of Maria's most important duties will be to maintain and enhance the partnerships that have been established between the local health department and the detention centers, jails, and prisons in the county. These facilities have been the foci of TB transmission in the past.

Maria has previous experience working in the TB programs in Miami, Florida, and in New York City, New York. Her duties included collecting and analyzing surveillance data, case management, active disease surveillance, and program management as well as planning, developing, and implementing TB-related training for health care workers.

Maria received a BA degree in Psychology at Hunter College in New York City and is currently working on completing requirements for a Master of Public Health degree from Florida International University.

Captain Michael Iademarco, USPHS, has received two awards from the Government of Vietnam for his contributions to the country. For 4 years he served as the Health and Human Services (HHS) Health Attaché at the U.S. Embassy in Hanoi. In that position, he coordinated policy for U.S. Government health-related activities and was the in-country representative for the Office of the Secretary of HHS (see TB Notes 2, 2010). On June 14, 2010, Dr. Nguyen Quoc Trieu, the Vietnamese Minister of Health, presented Dr. Iademarco an "insignia for the People's Health," the highest award the Ministry can grant. In a speech before assembled colleagues, Deputy Health Minister Nguyen Thi Kim Tien spoke highly of Dr. Iademarco's contributions to protecting the people's health, referring to his role in coordinating and facilitating the U.S. health program in Vietnam. She detailed his efforts on TB, HIV/AIDS, food safety, avian influenza, and ethical policy development for human subject research. On influenza, she cited his contributions to viral research, human vaccine development, the national action plan, and the first national surveillance network for influenza. She commended his focus on health system strengthening and on the Global Fund process. She also cited his leadership during negotiations on bilateral agreements such as the Memorandum of Agreement on product safety that was signed in 2008, and the partnership framework for HIV/AIDS prevention and control, under PEPFAR, signed by Secretary Clinton in July 2010.

In January 2011, he was further recognized with an award that is given by the Prime Minister of Vietnam and which is one of the highest awards that the Government of Vietnam presents to foreign officials. It commends him for his accomplishments contributing to the achievement of social development and protection of the country's health. The period of recognition, from 2000 to 2010, reflects not only his work in-country, but also his years of providing technical support while working in DTBE. Dr. Iademarco currently serves as Chief of DTBE's Laboratory Branch.

Adam J. Langer, DVM, MPH, EIS class of 2006 and staff epidemiologist in SEOIB, won the James H. Steele Veterinary Public Health Award for contributions over the past decade in the field of veterinary public health, not only as a CDC employee but also through his strong professional affiliation and additional volunteer work in veterinary medicine.

Brandy Peterson, MPH, MCHES, Health Scientist with FSEB, is the recipient of the DTBE Director's Recognition Award for the second quarter of 2011. Brandy was selected to receive this honor because of her extraordinary effort in reinstating OMB clearance for the Aggregate Reports for Tuberculosis (TB) Program Evaluation (ARPE) and for her leadership in coordinating the TB Program Evaluation Network (TB PEN) and Steering Committee.

Brandy joined DTBE/FSEB in January 2010 and immediately made a positive impression. In February 2010, Brandy was given the task of developing an OMB clearance packet to reinstate ARPE data collection. She quickly identified resources, guidelines, and requirements for the submission process, and maintained appropriate and effective communication links with NCHHSTP and DTBE staff involved in this process. She closely monitored and tracked the progress of the OMB clearance packet by providing regular feedback to DTBE staff. The collection of ARPE data was approved and reinstated by OMB in October 2010.

Her involvement in the TB Program Evaluation Network (TB PEN) is an additional noteworthy achievement, and thus she is also being recognized for her outstanding commitment and work in serving as the FSEB representative for the TB PEN Steering Committee. The administrative and programmatic support she provided to the TB PEN is commendable. Brandy is recognized for maintaining ongoing formal and

informal relationships with the TB PEN Steering Committee and Program Consultants. Her contributions have gone above and beyond regular duties, completing her tasks with exceptionally high quality while working under tight deadlines. Congratulations to Brandy for this well-deserved honor!

Angela Starks, PhD, has been selected as the leader for the Laboratory Capacity Team within the Laboratory Branch. As team leader, she will direct the oversight of the laboratory enhancement component of the TB cooperative agreements with U.S. jurisdictions and other laboratory systems partners. In addition, she will provide leadership in activities to formulate, plan, and perform operational and translational public health research focused on laboratory systems. This research analysis will provide the basis for recommendations and policy for development of national and local laboratory systems.

In June 2005, Angela came to DTBE in what was then the Mycobacteriology Laboratory Branch through the Fellowship in Research and Science Teaching program at Emory University. On completion of her postdoctoral fellowship, she joined the laboratory as a Title 42 Senior Service Fellow. She conducted research on the molecular mechanisms of drug resistance for *Mycobacterium tuberculosis* and served as a co-instructor and guest lecturer at Spelman College. Since December 2008, Angela has served as the leader of the Laboratory Capacity Activity under the mentorship of Beverly Metchock, DrPH. The transition of the activity to a team is a positive reflection of the team's expansion of work and responsibility, driven by public health need to accelerate our path to elimination in the United States.

Angela received her PhD in Biomedical Sciences with a concentration in Microbiology and Immunology from the University of Florida, and is currently pursuing an MPH in Public Health Practice from the University of South Florida, Gainesville.

Paul Tribble will retire July 31, 2011, after more than 23 years of federal service. Prior to joining CDC, Paul worked for 1981–1984 as Refugee Resettlement Officer in Malaysia and Thailand, and during 1985–1988 as the Oklahoma State Refugee Coordinator. In 1988 he joined CDC/DTBE. Unfortunately the only open position in DTBE at the time was as the Sr. PHA to the State TB Program in Hawaii. After 6 grueling years in Paradise, he was assigned to a newly developed position at the State TB Program in Arizona. After 2 years in Arizona, Paul felt the need to return to his refugee roots and took a position and promotion with DGMQ HQ Atlanta in 1996. In 2000 DTBE once again came out ahead and Paul rejoined us at HQ as a Program Consultant. Beyond being a stellar Program Consultant, Paul was also the Principal Investigator for Task Order 6, which focused on the "regional-based approach" to TB prevention and control in low-incidence areas. In 2008, because of his many years as an outstanding and distinguished Program Consultant, Paul was selected for the position in FSEB as lead for outbreaks and co-chair for the DTBE Outbreak Evaluation Unit (OEU). In his role as co-chair for OEU, Paul provided guidance and direction to this highly visible unit with a high level of professionalism and a solid management style. He has been instrumental in the recruitment of Public Health Advisors and Medical Officers for TDY assignments related to Epi Aids and post-Epi Aids. Additionally Paul has been on numerous TDYs both domestically and internationally—American Samoa, Malaysia, Marshall Islands, the Philippines, Tanzania, and Thailand.

Paul will be truly missed by all this friends and colleagues here at DTBE and most certainly by all the state and big city projects he has closely worked with over the past 23 years.

Matthew Willis, MD, MPH, second-year EIS officer in IRPB, won the J. Virgil Peavy Memorial Award with his presentation, "Seasonality of Tuberculosis — United States, 1993–2008." The Peavy Award recognizes the effective and innovative application of statistics and epidemiologic methods to a study or investigation.

Jessie Wing, MD, MPH, medical officer with the Field Services and Evaluation Branch (FSEB), has left DTBE after 12 years to take a position with CDC's Immunization Service Division.

Jessie came to CDC as an EIS Officer (1987 to 1989), and completed a preventive medicine residency in 1992. She worked as a medical epidemiologist in the National Center for Chronic Disease Prevention and Health Promotion and in the National Immunization Program. During that time, she began to describe the epidemiology of asthma in the United States (she authored the first chapter on asthma epidemiology for the National Heart, Lung, and Blood Institute's first National Asthma Education Guidelines) and worked in several domestic and international immunization activities. She worked extensively in Asia and was assigned to Beijing, People's Republic of China, for the polio eradication initiative with the World Health Organization through the National Immunization Program.

In 1999, Jessie joined FSEB and was assigned as chief of the TB Program in Hawaii, where she supervised nearly 50 staff statewide and managed a busy program that provided services for screening, radiology, diagnosis, treatment, DOT, contact Investigation, as well as surveillance, and other programmatic services at the state and local levels. During her nearly 10-year tenure in Hawaii, she oversaw a major renovation of the TB clinic into a state-of-the art clinic, with new digital radiographic equipment that provided service in over 65,000 annual patient visits where she gained extensive experience working on Asian/Pacific Islander issues. She also provided numerous lectures to the Department of Defense, university and other students, and she initiated research as the Principal Investigator of Hawaii's TBESC site. As TB Controller and chief, she updated targeted testing, contact investigation and handled several high profile legal challenges, many administrative and personnel details, and secured additional resources for the program.

In 2009 Jessie returned to FSEB headquarters in Atlanta, where she worked on TBESC Task Order 21 (acquired rifamycin-resistant TB), continued work on TBESC Task Orders 9, 12, 13, the MDR TB case studies book project, the decline in reported TB cases, and other projects. She was detailed to the EOC for 3 months for the CDC H1N1 response during which time she helped to develop adult and pediatric clinical algorithms with HHS and professional organizations and updated the CDC antiviral recommendations for clinicians. Jessie served as acting FSEB Branch Chief in 2010. In mid-2010, Dr. Castro designated Jessie as DTBE's lead for activities related to the Affordable Care Act. In conjunction with the National TB Controllers Association, she developed a special consultation with partners for October 7, 2010, to explore how TB prevention and control can be advanced in the context of health reform. She continued to be the DTBE point person for all ACA related activities in 2011 and had begun work on a partnership survey and health reform in the context of uninsured TB patients.

Jessie has officially begun her new role as the Deputy Director of the Immunization Service Division where she is assuming a leadership role in the new Prevention and Public Health Fund's FOA, a major new multi-million dollar initiative in six program areas. We will miss Jessie, and we wish her great success in her new role and congratulate her on her numerous accomplishments.

In Memoriam

Dr. David J. Sencer, the longest serving director of CDC (1966 to 1977), died May 3, 2011, at Emory University Hospital at the age of 86. Dr. Sencer had been a giant of public health since he became assistant director of CDC in 1960. He became deputy director in 1963 and director in 1966. Under his leadership, CDC programs expanded dramatically with the addition of programs in malaria, smallpox, nutrition, tobacco control, health education, environmental and occupational safety and health, surveillance of non-infectious diseases, and more.

He entered the United States Public Health Service (PHS) in 1955 after being an intern and resident in internal medicine at the University Hospital, Ann Arbor, Michigan. Sencer's first assignment was at the Idaho State Health Department, where he conducted a survey of health problems of migrant workers. Sencer's next assignment was at the Muscogee County Health Department in Georgia to head the PHS's field research in tuberculosis.

Two of his major contributions were to the eradication of smallpox and the founding of the school of public health at Emory University. He took the risk of finding from within CDC's budget resources the funding to provide staff and support that were the key to the eradication of smallpox. He took a strong lead in the conceptualization and establishment of the new school at Emory, providing people to develop the curriculum and initially staff the school.

Dr. Sencer was especially proud of the recognition he received as an honorary member of the Epidemic Intelligence Service and an honorary public health advisor. He remained a strong supporter of these two core career series at CDC.

After leaving CDC, Dr. Sencer served as a vice president for medical affairs of Becton Dickinson and Company. He loved public health and returned as commissioner of the New York City Department of Health. The department developed a model surveillance program that helped delineate risk groups for HIV/AIDS, defined the risk of tuberculosis in HIV-infected persons, fought to establish a needle exchange program, and worked to preserve the rights of HIV-infected individuals.

He remained active in public health and was a valued advisor to the subsequent directors of CDC. Dr. Sencer provided astute, helpful, frank, and constructive insights and advice that emanated from his deep love for and boundless knowledge of CDC. His most recent contributions have been in the area of chronicling global disease eradication. Global Health Chronicles were established with the involvement of the Rollins School of Public Health, Emory's Woodruff Library, and CDC. The eradication of smallpox has been chronicled, and Dr. Sencer had already started the chronicles on the eradication of Guinea worm, with others planned.

Dr. Sencer was born in Grand Rapids, Michigan, and attended Wesleyan University until he left for military service. He got his medical degree from Michigan University and an MPH from Harvard long before he was accorded an honorary college degree from Wesleyan.

He is survived by Jane, his wife of almost 60 years; three children: Susan, a pediatric oncologist in Minneapolis; Ann, an oncologist nurse practitioner in Atlanta; and Steve, General Counsel, Emory University; and six grandchildren. Those who know Dr. Sencer well will agree that his first love clearly was family; his second love was CDC. Both families will miss him dearly, but his influence will continue to be felt by millions of people, both in this country and around the world.

CALENDAR OF EVENTS

July 17–20, 2011
6TH IAS Conference on HIV Pathogenesis, Treatment and Prevention
Rome, Italy
International AIDS Society (IAS)

July 20–21, 2011
19th Semiannual TBESC Meeting
Chicago, IL
Division of TB Elimination (DTBE)

July 26–30, 2011
American Society for Clinical Laboratory Science Annual Meeting
Atlanta, GA
American Society for Clinical Laboratory Science (ASCLS)

August 14–17, 2011
2011 National HIV Prevention Conference
Atlanta, GA

September 20–22, 2011
2011 TB ETN and TB PEN Annual Conference
Westin Atlanta Perimeter North
Atlanta, GA

October 12–15, 2011
The Denver TB Course
Denver, CO
National Jewish Health

October 26–30, 2011
42nd Union World Conference on Lung Health
Lille, France
IUATLD
Call for abstracts -The Union/CDC late-breaker session
Abstract submission deadline: July 30, 2011

November 7–9, 2011
Implementing the Stop TB Strategy: skills for managers and consultants
Sondalo, North Italy
WHO
E-mail: mailto:lia.dambrosio@fsm.it

November 28–December 10, 2011
Human Resources Development and Management
Bangkok, Thailand
IUATLD
E-mail: imdp@theunion.org

January 12–15, 2012
3rd Global Symposium on IGRAs
Waikoloa, Hawaii
UC San Diego School of Medicine
Call for abstracts
Abstract submission deadline: September 1, 2011